

REMARKS CONCERNING THE AMENDMENTS

The above amendments were made in an effort to more clearly present the claimed technology and to provide alternative language for the invention.

Antecedent basis for the amendments to the specification may be found in the original specification (for the description of the Figures, see pages 21-24). The claim for priority is based upon the existing claim for priority in the Application, and the published claim for priority already established in U.S. Patent Application Serial No. 09/322,042, filed May 28, 1999, and published as Publication No. 2002/0072667 on June 13, 2002.

Antecedent basis for new claims 39-41 may be found generally in the specification and, for example, previous claims 31-33 and pages 21-23 wherein planar images are superimposed (e.g., a form of comparison) with contour maps from MR image data sets.

SUMMARY OF THE REJECTIONS AND THE RESPONSE

The Rejections

Claims 31-38 were rejected under 35 USC 112, first paragraph for failing to meet the “Written Description” requirement

It is asserted that numerous recitations such as “2-D and 3-D;” “visual observation” by a physician; “collected serially;” “quantitatively manipulate the data;” and “assess blood flow or angiographic abnormality” are not described in the specification and therefore may not be recited in the claims.

Claims 31-38 have been rejected under 35 USC 112, second paragraph as vague and indefinite for failing to particularly point out and distinctly claim the invention

It is asserted that “early image data” is unclear.

Claims 31-38 were rejected under 35 USC 112, first paragraph for failing to meet the “Written Description” requirement

The Terms 2-D and 3-D

The rejection of claims 31-38 under 35 USC 112, first paragraph as failing to comply with the written description requirement is respectfully traversed. That requirement does not require that the literal language be present in the specification, but that the concept of the limitation is clearly present. As shown by the enclosed definition of “contour map” from the Random House Compact Unabridged Dictionary (the term literally found in the original specification of pages 21-23), a contour map shows three dimensions on a 2 dimensional surface. The specification clearly teaches the concept of both two dimensional data (the term planar data or planar image is used in the specification) and the term contour map clearly conveys the concept of three dimensional data (3-D) to one of ordinary skill in the art. The term finds clear conceptual antecedent basis in the specification. Additionally, those portions of the specification show that two types of data are overlaid, which is a clear method of comparison. This is also shown in the Figures.

The extensive body of case law on this issue may be reasonably and clearly summarized by the often quoted language of *In re Anderson*, 176 U.S.P.Q. 336, C.C.P.A. 1973 that:

“The question, as we view it, is not whether ‘carrying’ was a word used in the specification as filed but whether there is support in the specification for employment of the term in a claim; is the concept of carrying present in the original disclosure? We think it is.” (cf. *Ex parte Janin*, 209 U.S.P.Q. 763, PTO Bd. Of App. 1979)

The rejection is in error and must be withdrawn.

The specification clearly shows the taking of planar images, contour images and combining the images, especially on pages 20-24. Please note the figures in this regard for further description of the combination of planar and contour data.

The terms “visual observation” by a physician

It must be readily appreciated that the “images” created in the present technology are visual images, specifically MR images, which are for the purposes of providing information to a doctor and/or technician. As a purpose of the invention is a method of detecting and quantitatively evaluating the severity of ischemias in a human body, and to interpret those images (see page 6, lines 21-36), it is absolutely apparent that the images are to be viewed by doctors. This concept is absolutely and clearly taught in the specification. The properties of the human undergoing the imaging (e.g., see pages 5 and 6) are clearly so medically oriented that it is inconceivable that persons other than those with significant medical training would be observing the images with any benefit. The concept of visual observation by a doctor is clearly provided in the original specification.

The term “collected serially”

Although the terms are essentially equivalent, applicants have amended the claims to read “successively” (literally found on page 15, lines 15-17). The additional limitation of “a total acquisition time” is also found on page 15, line 21. There is clear basis for the written description of these terms in the original specification.

The term “quantitatively manipulate the data”

This term can be found and described, at least by way of non-limiting examples, on page 13, line 34 through page 14, line 19 (see especially lines 12-19). The disclosure, at this point and elsewhere, specifically instructs the manipulation of data, and the measurements discussed (e.g., intensity, area, volume) are quantitative values. That description is also clearly present in the original disclosure.

The term “assess blood flow or angiographic abnormality”

The term has been amended in the claims to reflect “blood flow” abnormalities, a term literally found in the specification, even if substantively the same as the term to which objection was made.

New claims 39-41 are parallel to claims 31-33, but use the literal language found in the specification and also address the issues raised against the previous claims..

Claims 31-38 have been rejected under 35 USC 112, second paragraph as vague and indefinite for failing to particularly point out and distinctly claim the invention

It is asserted that “early image data” is unclear.

This term has been clarified to reflect that the “early” and “late” occurs within the acquisition time. As the acquisition time is a time period, the relativity of the term within that framework is clear and in compliance with the requirements of 35 USC 112, second paragraph. One of ordinary skill in the art would be fully comprehensive of the meaning of the term

Double Patenting

Claims 37 and 38 have been rejected on the grounds of Obviousness-Type Double Patenting. As indicated by the Examiner, this rejection is overcome by the filing of the Terminal Disclaimer that accompanies this Amendment.

CONCLUSION

Applicants believe that the application and claims are now in proper order and in condition for allowance. **If the Examiner believes that any issues remain that can be resolved by an Examiner's Amendment, the Examiner is respectfully requested to call the attorney of record.** Please direct any inquiries to the undersigned attorney at (952) 832-9090.

Respectfully submitted,


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Date: 3 March 2005

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